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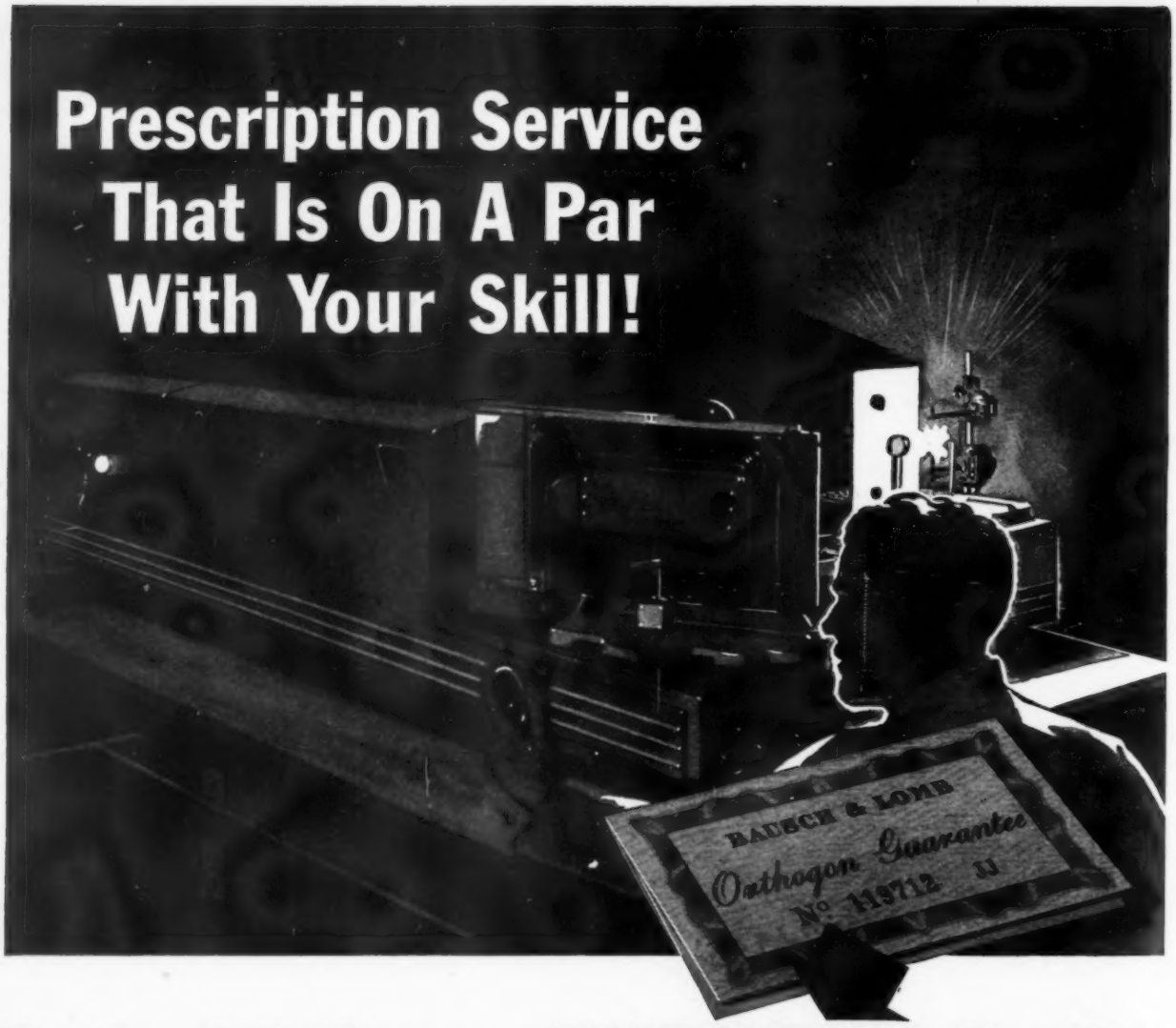

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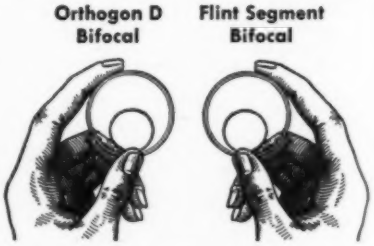

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A PLAN FOR REFRACTIVE EYE CARE FOR THE INDIGENT AND THE MEDICALLY INDIGENT IN MINNESOTA*

PART I. THE PROBLEM AND THE ASSEMBLING OF DATA

Carel C. Koch, Opt.D., F.A.A.O.
Minneapolis, Minn.

THE PROBLEM

Review

During the past fifty years, optometry has been, in a large part, concerned with the ocular problems of those individuals who came to our offices as pay patients. Our principal efforts have been directed in giving this large group of citizens, adequate and proper eye care and our success in this endeavor has resulted in a fair degree of individual financial success for the members of this profession.

The economic course followed by optometry during this period paralleled that of dentistry and medicine and resulted in many technical advances made in all branches of the healing arts. The motivating forces behind these advances were several in number, two of the chief ones being, (1) the desire on the part of the practitioner to do a more skillful piece of work—thus to better serve his patients, and (2) the desire to gain further financial rewards because of greater and better service to these patients and others who would be referred to him by former patients.

If one finds a touch of selfishness in the foregoing it must be remembered that the economics of these American states during the past fifty years has a bearing upon this. During this period the success of most endeavors was judged, in part at least, by the financial rewards which came as the result of these endeavors. This was, and still is

*An abridgment of the material presented before the American Academy of Optometry, at Chicago, Illinois, December 7, 1941, for publication in the August, 1942, issue of the AMERICAN JOURNAL OF OPTOMETRY AND ARCHIVES OF AMERICAN ACADEMY OF OPTOMETRY. Part II of this report, "The Plan, the Proposal, and Appendix: Including the Adoption of a State Wide Program of Refractive Care," will appear in the September issue.

true in business, in the arts, the sciences and in all professional activities. Our entire applied political economy is geared almost entirely to the sale of services, goods, commodities or materials—sales which, in the aggregate, must bring the seller a profit.

And all this is good. Application to a given task has, for the greater part, been well compensated. America has developed in every way. Rewards are high and men have made great initial progress on every front to gain these rewards. We have become, in these few short decades, a nation that leads the world in productivity, sales and all material comforts. Our pre-war standards of living for the masses have reached heights never before conceived, and America is looked upon by the many millions in other lands as a paradise of immense wealth and great opportunity. And such it has been and still is.

However, under such economies it was natural that some few should suffer. Lost behind the driving force of these economic developments were those who for one reason or another failed to keep the pace. Those individuals and family groups who were unable to find their particular niche in these ever developing times. For these people our economies offered but little. With but scant funds, they for the most part did without many comforts and advantages common to the great mass of their fellow citizens. Comforts and benefits accepted by all as a part of the natural way of American life were denied these few.

At first, little thought was given to the privations of this group. Then certain individuals, motivated by a sincere desire to assist their less fortunate fellow citizens, acted to do what they could to make the lot of this group somewhat more pleasant. As these efforts developed the science of applied sociology was born and in its earliest beginnings private social work as we now understand it took root.

As the problems of these unfortunate citizens became better understood and as their numbers increased, particularly as the result of the depression of 1930-1932, it became obvious that the efforts of private social workers, excellent as they were, would be unable to cope with, or meet, the needs of this group at that time. Tax supported public welfare functions then entered the field to augment the work already done by private agencies.

At first, it was thought that the problems presented by these unfortunate persons were, in a measure at least, temporary and public

agencies acted accordingly. Social programs were created as emergency measures and no long range planning was attempted. Students of sociology soon found these stop-gap measures ineffective and began to study the needs of these unfortunate persons as these needs were related to the well being of all citizens.

After much professional discussion and many attempts at solving this problem the following philosophy has slowly developed among both public and private social workers, sociologists and many governmental officials. This philosophy is in brief, that America will never reach its full development until certain basic fundamental living and health standards are received by all of its people, and that it is the duty of organized citizens through their representative governmental agencies to assure to all people that these requirements will be met. It is to this philosophy that many of our governmental leaders in Washington now subscribe.

This philosophy when fully extended into actual governmental policy, will change many of our concepts of a social order. It will affect our methods of doing business and living and as optometrists it may have a profound bearing upon our future usefulness to society. Already many small yet important phases of this general program are being placed into effect. As yet but few portions of this touch the healing arts and it is true that today we feel no effects of the changes in the social order which many social workers are now certain will come.

Nevertheless refractive eye care is already included in certain public welfare programs and as these activities expand, it is obvious that our entire professional outlook may be altered by them. It is for this reason that this brief review of our present position is undertaken and that this outline is presented which the writer believes will give to optometry a workable and cooperative method of approaching this problem. There are undoubtedly other methods of solving the questions presented by these social changes. Here the writer will present the methods adopted by the optometrists of Minnesota in working with County and State wide public welfare agencies. Methods which have been in force in the City of Minneapolis with some success for more than three years.

During the past two decades optometrists have entered the field of private social work through the establishment and maintenance of refractive eye clinics. For the most part, these clinics have been con-

ducted by either state or local optometric societies. These clinics have functioned for the betterment of the under-privileged on either a free or part-pay basis. A number of these optometric clinics have been maintained in various urban centers and have done some very good work in correcting and relieving the visual problems of many needy persons. Yet, during recent years it became evident that the resources of the profession and the private social agencies with whom we worked were entirely inadequate to properly cover the field as needed.

Medical clinics also supported by private social work likewise found themselves but scratching the surface of the vast field of health work necessary.

It was also evident that while the private social agencies did relieve much distress in both the relief and health fields in the urban areas, they did but little in servicing the under-privileged in the rural areas. And it is true that in many of our agricultural states the problems of the latter group were just as acute as were those found in the urban centers.

From the optometric standpoint or from that of the private social worker there was no way of reaching the rural centers with competent refractive eye care on either a free or part-pay basis.

This being true it was but natural that public welfare agencies who had already entered into the case work relief field of social work, were asked to assist in relieving distress caused by a lack of adequate health care. Relief clients, already receiving food, clothing and shelter, asked also for medical, dental and optical aid. As provisions were made on the part of public agencies to meet these new health requests, medical men, dentists and optometrists were, for the first time to many, made aware of the three way relationship necessary for the success of any socialized health program, i.e., the peculiar relationship between the patient, the case work supervisor representing the agency and the practitioner himself.

The Mechanics of Relief and Supplemental Aid in Minnesota

Before going into a detailed review of the approved methods employed by optometrists in Minnesota to assist in a program of ocular refraction for the indigent of the state it will be well to briefly familiarize ourselves with the mechanics of relief administration in Minnesota.

The entire welfare and relief program is one of dual control, with the Division of Social Welfare of the Department of Social Security of the State of Minnesota furnishing some of the needed funds, and acting as a planning, policy making and coordinating body for all of the individual units in the state; and the 87 county units plus certain municipalities represented by county or city Welfare Boards, who expend all funds and supply the necessary local knowledge and administrative technique needed to make the relief program as a whole effective.

The cost of the entire program is jointly borne by state and local funds and proper disbursement of these requires a thorough knowledge of local needs as well as a high measure of cooperation between local and state authorities. Minnesota is fortunate in having as director of this program, Mr. Walter W. Finke, who because of his knowledge of the subject and because of his excellent judgment has brought complete harmony into the state wide relief program.

The details of the various relief programs are naturally the responsibility of the local county or city boards around which the entire program revolves. This being true it was necessary for optometrists of Minnesota to work out a refractive program of aid for the indigent and the medically indigent which would fit into the already working county or city relief administration units.

To accomplish this, however, it was necessary to have (1) certain optometric data upon which plans could be made and (2) the willingness of the Division of Social Welfare to consider such plans, as these had to do with refractions for indigent persons.

Having secured the latter, it was necessary for the optometrists of the state, working through the Minnesota State Optometric Association to develop the data upon which a sound, state-wide refractive program could be launched. A refractive program so developed as to include both the eye physician and the optometrist as both groups of examiners were engaged in refractive work in the state.

ASSEMBLING OF DATA

Activities of the State Optometric Association

Under the leadership of the president, Dr. R. H. Ehrenberg and the executive committee, the Minnesota State Optometric Association

decided to devote considerable time, energy and thought in developing a proposed state-wide program of refractive care for the indigent. A program which would function to a high point of real and useful service. The material issued by the Public Health Bureau of the American Optometric Association was studied for suggestions and the writer was asked to serve as director of the Public Health Bureau for Minnesota.

As this activity resolved itself into a county problem under a state-wide plan, the latter at that time still to be developed, it was decided to attack the problem on a county basis and to secure the necessary factual data through the medium of the county unit.

With this in mind the state was first divided into 12 zones. Each of these following county lines. A zone director, who practiced within the zone area, was then appointed to assist the director of the state Public Health Bureau.

Each of the zones was composed of from 4 to 11 counties, all following natural geographic boundaries or customary trade territories making each zone a natural unit in itself with more or less common problems throughout the zone area.

The association then appointed a county chairman for each of the 87 counties in the state, and informed this initial organization of its plan to study various phases of public health optometry, and asked their fullest cooperation. It should be said here parenthetically, that the cooperation accorded the state association by these many optometrists was excellent. Throughout the entire period of study and planning these men exerted every effort to place the data needed relative to these zones and their counties in the hands of the director as required. Many of these men were forced to interview public officials, to travel about considerably and to attend frequent meetings. All of which was done by them with a spirit of willingness and real helpfulness.

Twelve zone meetings were then held. These meetings took place in centrally located cities, one in each of the zones. All of the optometrists in a zone were invited to attend their particular zone meeting. At least one officer of the state association attended each zone meeting as did the director of the Public Health Bureau. The meetings were for the most part, well attended by optometrists, three of the zones having all practicing optometrists present at the meetings. This in itself is indicative of the interest now present in this subject, as many of

the men had to travel from 150 to 200 miles to attend their zone meeting.

During these zone meetings a full discussion took place on optometry's participation in programs of correcting the refractive problems of indigent persons, school children and industrial workers, as well as a review of the future practice of optometry under some form of a state-wide program of socialized health care.

Many excellent suggestions were made by men present at these meetings, who realized that the future success of any or all of these specialized programs rested largely in their hands, and to assure the proper future of their profession they must assume many responsibilities. As the result of these meetings they understood too, that if they were to be accorded a leading place in programs of refractive care, their community standing, their professional practices and their technical skills must be above reproach. Only optometrists, who met every requirement of modern day practice could succeed in such professional activity. They understood also that while the planning for such programs could and must be done on an all inclusive state-wide basis, that the county unit of optometrists, organized in a county eye-refraction panel had to be the chief working force upon which the success of all plans depended.

At the conclusion of each of the zone meetings the county chairmen were asked to send to the office of the director of the Public Health Bureau the following material, (1) certain data having to do with refractive matters and optometry in each county, (2) a list of, and certain data on, optometrists in each county who were practicing exclusively and professionally, and (3) a list of names and addresses of leading citizens and county officials with whom optometrists would come in contact in doing public health work.

To assist the county chairman in gathering data on refractive matters in his county, a set of four questionnaires was given him with the request that he at once gather the necessary data and return same to the Public Health Bureau.

While these zone meetings were taking place, various officers of the state association and also at times the director of the Public Health Bureau personally visited optometric offices in all parts of the state. Data were compiled on the individual optometrist's type of practice—his location—general surroundings—appearance of office—equipment—

attitude towards his own professional activity, and in his community, as to his standing among his fellow citizens and professional colleagues.

This material was later checked against his educational background, both undergraduate and graduate, and along with the county chairman's report upon him became the basis for developing the final county eye-refraction panel of optometrists.

Most county reports were promptly filled-in and returned by the county chairman, and the work of compiling and studying this material was begun. On the following pages will be found the set of four questionnaires used by the county chairmen. These are presented in condensed form. The originals, for each county, were bound in an 8½"x 11 inch folder of 21 pages.

Questionnaire Number 1.

PUBLIC HEALTH BUREAU
of the
MINNESOTA STATE OPTOMETRIC ASSOCIATION, INC.
Dr. Carel C. Koch, Director. Foshay Tower, Minneapolis, Minn.

REPORT ON THE VISUAL REQUIREMENTS OF CHILDREN

County.....Town or City.....School District.....
Note: A copy of this questionnaire should be filled in by the County Chairman for each political sub-division of his County.*

Name of County Chairman. Dr.....

Address..... City.....

(1) ARE PERIODIC VISUAL SURVEYS NOW MADE IN THE SCHOOLS OF YOUR COUNTY?
(a) in Public Schools..... (b) in Parochial Schools.....

(2) IF SO, THESE VISUAL SURVEYS ARE CONDUCTED BY WHOM?
(a) in Public Schools..... (b) in Parochial Schools.....

(3) WHAT TYPE OF NOTIFICATION FORM IS SENT HOME TO PARENTS OF CHILDREN WHO HAVE VISUAL PROBLEMS, BY THE SCHOOLS?
(a) by Public Schools..... (b) by Parochial Schools.....
(If possible, attach samples of each form.)

(4) INDIGENT STUDENTS ARE REFERRED FOR EYE CARE TO—
(a) by Public Schools..... (b) by Parochial Schools.....

(5) THE COST OF EYE CARE FOR INDIGENT STUDENTS, IS PAID FOR, BY
(a) in Public Schools..... (b) in Parochial Schools.....

(6) NAME VOLUNTEER OR PRIVATE ORGANIZATIONS IN YOUR SCHOOL DISTRICTS, TOWNS, OR CITIES THAT HAVE BEEN ACTIVE IN ASSISTING IN THE CORRECTION OF THE OCULAR PROBLEMS OF INDIGENT SCHOOL CHILDREN.
(a) in Public Schools..... (b) in Parochial Schools.....

*Additional copies of this questionnaire may be obtained at the office of the Director of the Public Health Bureau.

(7) WHAT TAX SUPPORTED PUBLIC AGENCIES, BOARDS OR COMMISSIONS HAVE BEEN ACTIVE IN CORRECTING THE OCULAR PROBLEMS OF SCHOOL CHILDREN?
(a) in Public Schools..... (b) in Parochial Schools .....

(8) HAVE THE OPTOMETRISTS IN YOUR COUNTY BEEN ACTIVE IN SCHOOL *SURVEY* WORK? DESCRIBE—
(a) in Public Schools..... (b) in Parochial Schools.....

(9) ARE INDIGENT STUDENTS REFERRED TO OPTOMETRISTS TO HAVE THEIR REFRACTIVE PROBLEMS CORRECTED? DESCRIBE—
(a) Referred through Public Schools.....
(b) Referred through Parochial Schools.....

(10) IF SO, THESE INDIGENT STUDENTS ARE REFERRED TO OPTOMETRISTS BY WHOM?
(a) from Public Schools by..... (b) from Parochial Schools by.....

(11) DO THE OPTOMETRISTS TO WHOM THESE INDIGENT STUDENTS ARE REFERRED, DO BOTH THE EYE EXAMINING AND THE DISPENSING?
(a) for Public Schools..... (b) for Parochial Schools .....

(12) AMOUNT OF EXAMINATION FEE PAID TO OPTOMETRISTS FOR REFRACTION OF EACH INDIGENT STUDENT?
(a) by Public Schools $..... (b) by Parochial Schools $.....

(13) AVERAGE FEE PAID TO OPTOMETRIST, FOR MATERIAL ONLY, DISPENSED TO EACH INDIGENT STUDENT SERVED?
(a) by Public Schools $..... (b) by Parochial Schools $.....
Comment: ..... Comment: .....

(14) THE ABOVE FEES ARE PAID TO THE OPTOMETRIST BY WHOM?
(a) for Public Schools ..... (b) for Parochial Schools.....

(15) IS THERE A FREE OR CHARITABLE EYE CLINIC IN YOUR COUNTY? YES....., No..... .

(16) IF SO, IS THIS CLINIC OR THESE CLINICS OPERATED BY—
Optometrists..... Medical Men.....

(17) GIVE NAME OR NAMES OF ABOVE CLINICS—
Name..... Name.....
Address..... Address .....
Name..... Name.....
Address..... Address.....

(18) ARE THE ABOVE CLINICS SUPPORTED BY PUBLIC (tax) OR PRIVATE FUNDS? .....

(19) GIVE THE TOTAL ESTIMATED NUMBER OF INDIGENT STUDENTS EXAMINED EACH YEAR AT ABOVE CLINIC OR CLINICS. Total for all clinics..... .

(20) IS YOUR COUNTY HEALTH OFFICER A PHYSICIAN OR NURSE?

(21) IS HE OR SHE FRIENDLY TOWARDS, AND WILLING TO WORK WITH OPTOMETRISTS, IN DEALING WITH THE REFRACTIVE PROBLEMS OF SCHOOL CHILDREN?

(22) GIVE NAME, TITLE AND ADDRESS OF YOUR COUNTY HEALTH OFFICER.
Name .....
Title .....
Office Address .....
City .....

(23) GIVE THE NAME AND ADDRESS OF EACH MEMBER OF YOUR

COUNTY HEALTH BOARD OR OTHER SIMILAR GROUP WHO IS NOW RESPONSIBLE FOR THE HEALTH NEEDS OF INDIGENT STUDENTS. (print).

Chairman of Board.....
Address .....
Board Member .....
Address .....
Board Member .....
Address .....
Board Member .....
Address .....
Board Member .....
Address .....
Board Member .....
Address .....
Board Member .....
Address .....

(24) WOULD YOU AS COUNTY CHAIRMAN CARE TO HAVE YOUR ASSOCIATION SEND DIRECT TO THESE BOARD MEMBERS CERTAIN PROPER PUBLIC HEALTH MATERIAL FOR THEIR STUDY AND ATTENTION? Yes..... No.....

(25) IN DOING REFRACTIVE WORK ON CHILDREN, ARE OPTOMETRISTS IN YOUR COUNTY DISCRIMINATED AGAINST BY COUNTY HEALTH OFFICIALS? Yes..... No..... (Also see question No. 26)

(26) IF ANY DISCRIMINATION EXISTS, PLEASE DESCRIBE—

(27) GIVE THE NUMBER OF OPTOMETRISTS, PRACTICING OPTOMETRY EXCLUSIVELY, IN YOUR COUNTY—

(28) GIVE THE NUMBER OF OPTOMETRISTS IN YOUR COUNTY, WHOSE OFFICES ARE LOCATED IN STORES IN WHICH MERCHANDISE, OTHER THAN OPTICAL, IS SOLD—

(29) GIVE THE ESTIMATED NUMBER OF OPTOMETRISTS IN YOUR COUNTY AVAILABLE FOR PUBLIC HEALTH WORK ON INDIGENT STUDENTS—

(30) THIS QUESTION HAS TO DO WITH "CASE-WORK." IN YOUR OPINION IS A CAREFUL PRIOR INVESTIGATION MADE OF THE FAMILY CIRCUMSTANCES IN THE CASE OF EACH STUDENT BEFORE ASSISTANCE IS GIVEN THEM? Yes..... No.....
(Describe below)

(31) IN YOUR COUNTY, WHO MAKES THIS CASE WORK INVESTIGATION ON EACH INDIGENT STUDENT?

(32) CONFIDENTIAL COMMENTS BY THE COUNTY CHAIRMAN FOR THE FILES OF THE PUBLIC HEALTH DEPARTMENT OF THE MINNESOTA STATE OPTOMETRIC ASSOCIATION—COMMENTS RELATIVE TO THE REFRACTIVE PROBLEMS OF CHILDREN—

Questionnaire Number 2.

REPORT ON THE VISUAL NEEDS OF THE INDIGENT

(1) IN YOUR COUNTY, ARE PERSONS NOW ON RELIEF OR RECEIVING COUNTY AID FOR SUBSISTENCE, GIVEN EYE CARE WHEN SUCH IS REQUESTED? Yes..... No.....

(2) IF SO, TO WHAT PUBLIC OR TAX SUPPORTED AGENCY DO THESE PERSONS APPLY FOR THIS AID?
Name of Agency.....
Office Address .....
City .....

(3) IN YOUR COUNTY, ARE INDIGENT PERSONS GIVEN EYE CARE THROUGH THE SERVICES OF ANY PRIVATE WELFARE AGENCY OR OTHER NON-TAX-SUPPORTED GROUP?
Name of Agency.....
Office Address .....
City .....
Name of Agency.....
Office Address .....
City .....
(If more than two exist, please list others on separate sheet)

(4) IN YOUR COUNTY, IS EACH INDIVIDUAL INDIGENT CASE INVESTIGATED CAREFULLY BY TRAINED REPRESENTATIVES OF PUBLIC AND PRIVATE AGENCIES BEFORE AID IS GIVEN?
Yes..... No..... Comments.....

(5) IN YOUR COUNTY, WHO MAKES THESE INVESTIGATIONS TO DETERMINE THE STATUS OF INDIGENT PERSONS?
(a) for Public Agencies .....
(b) for Private Agencies.....

(6) HAVE THE INDIGENT IN YOUR COUNTY FREE-CHOICE OF DOCTORS WHEN APPLYING TO PUBLIC AGENCIES FOR EYE CARE?

(7) AFTER CERTIFICATION AND/OR INVESTIGATION BY AN AGENCY, THE INDIGENT PERSONS IN YOUR COUNTY ARE REFERRED FOR EYE CARE TO WHOM?
.....Agency, to .....
.....Agency, to .....
.....Agency, to .....
Comments: .....

(8) WHAT PERCENT OR PORTION OF THESE INDIGENT PERSONS ARE REFERRED TO OPTOMETRISTS BY ABOVE AGENCIES TO HAVE THEIR REFRACTIVE PROBLEMS CORRECTED? DESCRIBE.

(9) DO THE OPTOMETRISTS TO WHOM THESE INDIGENT PERSONS ARE REFERRED, DO BOTH THE EYE EXAMINING AND THE DISPENSING OF THE REQUIRED OPTICAL MATERIALS? DESCRIBE—

(10) GIVE THE AMOUNT OF EXAMINATION FEE PAID THE OPTOMETRIST FOR EXAMINING EACH INDIGENT PERSON. $.....

(11) GIVE THE AVERAGE FEE PAID THE OPTOMETRIST FOR MATERIAL FOR EACH INDIGENT PATIENT SERVED. $.....

(12) THE COST OF THIS EYE CARE FOR INDIGENT PATIENTS IN YOUR COUNTY IS PAID FOR BY WHOM?

(13) ARE INDIGENT PERSONS ALSO GIVEN EYE CARE AT FREE OR CHARITABLE PRIVATE CLINICS LOCATED IN YOUR COUNTY?
Yes..... No.....

(14) WHAT FEES IF ANY ARE COLLECTED FROM INDIGENT PERSONS AT THESE FREE OR CHARITABLE PRIVATE CLINICS?

(15) WHO DOES THE EYE EXAMINING AT THESE FREE OR CHARITABLE PRIVATE CLINICS OPERATED FOR THE INDIGENT?

(16) GIVE AN ESTIMATE OF THE NUMBER OF INDIGENT PERSONS RE-

CEIVING EYE EXAMINATIONS AT FREE OR CHARITABLE CLINICS EACH YEAR IN YOUR COUNTY. Number of ocular examinations made .....

(17) IN DOING REFRACTIVE WORK FOR INDIGENT PERSONS ARE OPTOMETRISTS DISCRIMINATED AGAINST BY COUNTY HEALTH OFFICIALS OR BY PRIVATE SOCIAL WORKERS? Yes ..... No.....

(18) IF SO, DESCRIBE SUCH DISCRIMINATION—

(19) GIVE THE NUMBER OF OPTOMETRISTS IN YOUR COUNTY NOW AVAILABLE FOR PUBLIC HEALTH WORK ON INDIGENT PERSONS—

(20) DO YOU AS COUNTY CHAIRMAN KNOW ALL OF THE AVAILABLE OPTOMETRISTS IN YOUR COUNTY? Yes ..... No.....

(21) HAVE YOU THE NAMES AND ADDRESSES OF AVAILABLE OPTOMETRISTS ON FILE AT YOUR OFFICE? Yes..... No.....

(22) WHAT STEPS HAVE ALREADY BEEN TAKEN BY OPTOMETRISTS IN YOUR COUNTY TO CONTACT TAX SUPPORTED PUBLIC AGENCIES AND THEIR BOARDS TO ASSURE OPTOMETRISTS A PARTICIPATION IN TAX SUPPORTED REFRACTIVE WORK FOR INDIGENT PERSONS? DESCRIBE—

(23) HAVE YOU AS COUNTY CHAIRMAN FOUND YOUR COUNTY WELFARE OR HEALTH BOARDS WILLING TO DISCUSS OCULAR REFRACTIVE MATTERS WITH YOU? Yes ..... No.....

(24) IF NOT, WILL YOU MAKE THESE NECESSARY CONTACTS? Yes..... No.....

(25) ARE THERE PERSONS IN YOUR COUNTY TO WHOM YOU WOULD LIKE TO HAVE SENT DATA DEALING WITH OPTOMETRIC PUBLIC HEALTH WORK? Yes ..... No .....
(If so, attach such list of names and addresses on separate sheet)

(26) CONFIDENTIAL COMMENTS BY THE COUNTY CHAIRMAN FOR THE FILES OF THE PUBLIC HEALTH BUREAU OF THE MINNESOTA STATE OPTOMETRIC ASSOCIATION — COMMENTS RELATIVE TO THE REFRACTIVE PROBLEMS OF INDIGENT PERSONS—

Questionnaire 3.

OPTOMETRIST IN INDUSTRY, SAFETY AND NATIONAL DEFENSE

(1) GIVE THE NUMBER OF INDUSTRIAL ESTABLISHMENTS IN YOUR COUNTY EMPLOYING 20 OR MORE PERSONS..... (See local Chamber of Commerce)

(2) HOW MANY OF THESE INDUSTRIAL ESTABLISHMENTS EMPLOY A FULL TIME INDUSTRIAL PHYSICIAN?.....

(3) HOW MANY OF THESE INDUSTRIAL ESTABLISHMENTS EMPLOY A PHYSICIAN DEVOTING BUT PART OF HIS TIME TO INDUSTRIAL MEDICINE?.....

(4) HOW MANY OF THESE INDUSTRIAL ESTABLISHMENTS EMPLOY A NURSE IN THEIR INFIRMARY?.....

(5) HOW MANY OF THESE INDUSTRIAL ESTABLISHMENTS EMPLOY A FULL TIME SAFETY SUPERVISOR IN THEIR SAFETY DEPARTMENT?.....

(6) HAVE VISUAL SURVEYS OF THE WORKERS' EYES BEEN MADE IN ANY OF THESE PLANTS? Yes ..... No ..... (See also questions 7, 8 and 9)

(7) IF SO, DESCRIBE THE SURVEY THAT WAS MADE AND OUTLINE THE TESTS THAT WERE USED.

(8) WERE GLASSES SOLD TO WORKERS AS THE RESULT OF THIS SURVEY?

(9) SURVEY OR SURVEYS MADE BY WHOM?

(10) HOW MANY OF THE INDUSTRIAL ESTABLISHMENTS IN YOUR COUNTY EMPLOYING 20 OR MORE PERSONS ENGAGE IN THE PRACTICE OF REQUIRING HARDENED FOCI PROTECTION GLASSES FOR THEIR EMPLOYEES?..... (see also questions 11 and 12)

(11) HOW ARE THESE HARDENED FOCI PROTECTION GLASSES SECURED FOR THE EMPLOYEE? DESCRIBE—

(12) THE COST OF THESE HARDENED FOCI PROTECTION GLASSES IS BORNE BY WHOM?

(13) ARE OPTOMETRISTS ENGAGED BY ANY OF THE INDUSTRIAL PLANTS MENTIONED ABOVE TO DO EITHER VISUAL SURVEY WORK, REFRACTIVE WORK, OR AS LIGHTING CONSULTANTS, OR TO PRESCRIBE FOR HARDENED FOCI PROTECTION GLASSES?
Yes ..... No ..... Describe .....

(14) AS COUNTY CHAIRMAN, WOULD YOU IF ASKED, BE WILLING TO ORGANIZE AN OPTOMETRIC COUNTY PANEL COMPOSED ENTIRELY OF OPTOMETRISTS WHO ARE BOTH OUTSTANDING CITIZENS AND ETHICAL EXCLUSIVE PRACTITIONERS TO PRESENT TO THE INDUSTRIAL LEADERS OF YOUR COUNTY THE NEED FOR VISUAL CARE AMONG THEIR EMPLOYEES AS AN AID TO NATIONAL DEFENSE? Yes ..... No.....

(15) AS COUNTY CHAIRMAN, WOULD YOU CARE TO HAVE THE PUBLIC HEALTH BUREAU OF THE MINNESOTA STATE OPTOMETRIC ASSOCIATION SEND TO THE LEADING INDUSTRIALISTS OF YOUR COUNTY PROPER OPTOMETRIC PUBLIC HEALTH MATERIAL?
Yes ..... No..... (Attach list of names)

(16) HAVE ANY OF THE OPTOMETRISTS IN YOUR COUNTY ASSISTED IN IMPROVING THE LIGHTING CONDITIONS IN INDUSTRIAL PLANTS? Yes ..... No ..... Describe .....

(17) WHAT WORK HAS BEEN DONE IN YOUR COUNTY BY OPTOMETRISTS IN MAKING VISUAL SURVEYS OF THE EYES OF MOTOR CAR DRIVERS? Describe—

(18) ARE OPTOMETRISTS IN YOUR COUNTY ACTIVE IN THE LOCAL SAFETY COUNCIL PROGRAM OR ACTIVE IN THE WORK OF THE SAFETY COMMITTEE OF THE LOCAL AUTOMOBILE CLUB?
Yes..... No..... Describe.....

(19) ARE ANY OF THE OPTOMETRISTS IN YOUR COUNTY IN CLOSE TOUCH WITH THE OFFICIALS OF THE STATE HIGHWAY DEPARTMENT AND ITS SAFETY DEPARTMENTS?
Yes ..... No..... (See also questions 20, 21 and 22)

(20) HAVE ANY OF THE OPTOMETRISTS IN YOUR COUNTY WORKED ON STATEWIDE SAFETY PROJECTS WITH THE OFFICIALS OF THE STATE HIGHWAY DEPARTMENT?
Yes ..... No ..... Describe—

(21) HAVE REFERRALS BEEN MADE TO OPTOMETRISTS BY COUNTY SHERIFFS OR BY COUNTY ORGANIZATIONS FOR VISUAL WORK IN THE INTEREST OF MOTORING SAFETY?
Yes ..... No ..... Describe.....

(22) ESTIMATE THE NUMBER OF MOTORISTS ORDERED TO REPORT TO OPTOMETRISTS IN YOUR COUNTY BY STATE HIGHWAY DEPARTMENT FOR LICENSE RENEWAL?.....

(23) COMMENTS BY COUNTY CHAIRMAN ON OPTOMETRIC WORK IN SAFETY AND INDUSTRY—

Questionnaire Number 4.

OPTOMETRIST IN PUBLIC HEALTH WORK AND AS A PUBLIC HEALTH OFFICER.

(1) ARE ANY OF THE OPTOMETRISTS IN YOUR COUNTY NOW SERVING ON ANY OF THE EMERGENCY RELIEF ADMINISTRATION COUNTY BOARDS OR COMMITTEES?
Yes..... No..... Describe activity, giving also name and address of optometrist.....

(2) ARE ANY OF THE OPTOMETRISTS IN YOUR COUNTY NOW SERVING ON YOUR COUNTY NATIONAL YOUTH ADMINISTRATION BOARD?
Yes..... No..... Describe activity, giving also name and address of optometrist.....

(3) ARE ANY OF THE OPTOMETRISTS IN YOUR COUNTY NOW SERVING ON A LOCAL DRAFT BOARD OR ADVISORY COMMITTEE?
Yes..... No..... Describe activity, giving also name and address of optometrist.....

(4) ARE ANY OF THE OPTOMETRISTS IN YOUR COUNTY NOW SERVING ON A COUNTY WELFARE BOARD OR ADVISORY COMMITTEE?
Yes..... No..... Describe activity, giving also name and address of optometrist.....

(5) ARE ANY OF THE OPTOMETRISTS IN YOUR COUNTY NOW SERVING ON A LOCAL OR COUNTY SCHOOL BOARD OR ADVISORY COMMITTEE?
Yes..... No..... Describe activity, giving also name and address of optometrist.....

(6) ARE ANY OF THE OPTOMETRISTS IN YOUR COUNTY NOW SERVING AS COUNTY OFFICERS IN ANY CAPACITY OTHER THAN ABOVE?
Yes..... No..... Describe activity, giving also name and address of optometrist.....

(7) ARE ANY OF THE OPTOMETRISTS IN YOUR COUNTY NOW SERVING AS TOWN OR CITY OFFICIALS IN ANY CAPACITY OTHER THAN ABOVE?
Yes..... No..... Describe activity, giving also name and address of optometrist.....

(8) HAS A COUNTY OPTOMETRIC PANEL BEEN ORGANIZED IN YOUR COUNTY TO ADVISE PUBLIC OFFICIALS IN MATTERS DEALING WITH OCULAR EXAMINATIONS? Yes..... No.....
(See also questions 9 and 10)

(9) IF SO, THIS PANEL WAS APPOINTED BY WHOM?

(10) IF SO, GIVE NAMES OF PARTICIPATING OPTOMETRISTS (print)—
Name..... Address.....
Name..... Address.....
Name..... Address.....

Name ..... Address.....
Name..... Address.....
Name..... Address.....

(11) ARE OTOMETRISTS NOW ON OFFICIALLY APPROVED LISTS OF PRACTITIONERS AS SET-UP BY COUNTY WELFARE BOARDS TO DO EYE EXAMINING?
Yes..... No ..... Describe.....

(12) DO PERSONS RECEIVING COUNTY AID OR ASSISTANCE IN GENERAL HEALTH MATTERS HAVE FREE CHOICE OF DOCTORS IN YOUR COUNTY? Yes..... No.....

(13) HAVE ANY OF THE OPTOMETRISTS IN YOUR COUNTY BEEN IN COMMUNICATION WITH THE DIVISION OF SOCIAL WELFARE OF THE STATE OF MINNESOTA IN ST. PAUL?
Yes..... No..... (See also questions 14 and 15)

(14) IF SO, FOR WHAT PURPOSE?

(15) IF SO, WITH WHAT RESULT?

(16) AS COUNTY CHAIRMAN WOULD YOU FAVOR AT THIS TIME THE ESTABLISHMENT OF MINIMUM STANDARDS OF REFRACTIVE PROCEDURE FOR EYE EXAMINATIONS MADE BY OPTOMETRISTS UNDER THE SUPERVISION OF CITY, COUNTY OR STATE GOVERNMENTAL AGENCIES? Yes ..... No.....

(17) AS COUNTY CHAIRMAN WOULD YOU FAVOR COMPULSORY REFRESHER COURSES IN DIAGNOSTIC AND REFRACTIVE PROCEDURE FOR ALL OPTOMETRISTS TO BE ENROLLED IN THE FUTURE IN PUBLIC HEALTH REFRACTION PROJECTS?
Yes ..... No .....

(18) ARE ANY OF THE OPTOMETRISTS IN YOUR COUNTY SPECIALIZING IN THE VISUAL REHABILITATION OF PATIENTS WITH SUB-NORMAL VISION?*
Yes ..... . No ..... Give names and addresses of these.
Name ..... Address .....
Name..... Address.....
Name ..... Address.....
Name ..... Address .....
Name ..... Address .....
(*Patients requiring telescopic spectacles, ptosis crutches, contact lenses, etc.)

(19) AS COUNTY CHAIRMAN WOULD YOU, IF ASKED, BE WILLING TO ORGANIZE AN OPTOMETRIC COUNTY PANEL COMPOSED ENTIRELY OF OPTOMETRISTS WHO ARE BOTH OUTSTANDING CITIZENS AND ETHICAL EXCLUSIVE PRACTITIONERS TO PRESENT TO TAX SUPPORTED AGENCIES AND BOARDS THE VALUE OF OPTOMETRICAL WORK AND THE PART THE OPTOMETRIST PLAYS IN THE HEALTH PROGRAM OF THE NATION?
Yes ..... No.....

(20) ADDITIONAL COMMENTS BY COUNTY CHAIRMAN—
Signed. Dr.....County Chairman.
for ....County. Date.....

Return questionnaires to Dr. Carel C. Koch. Director, Public Health Bureau. 1501-1504 Foshay Tower. Minneapolis, Minnesota.

Compiling and Studying Refractive Data

As already indicated, these data, which were used as a basis for study and planning came from a number of sources. These were, (1)

the files of the state association and the Minnesota Academy. (2) The files of local associations and graduate study groups. (3) Optometric registration data. (4) Data gathered at the 12 zone meetings. (5) Data gathered by officers of the state association during their visits to the practitioners in the local counties. (6) Specific local data sent in by county chairman, and (7) the information supplied by the county chairman in the four questionnaires.

As this material was compiled these data were filed by counties, in two general groupings. The first had to do with personnel and the second with refractive activities as these were now being carried on in each county.

From a personnel standpoint these data developed several facts. A state-wide spot-map showing the location of well trained, exclusive, ethical optometrists indicated a sufficiently wide coverage of these practitioners to make county panels by county trade-areas practical.

These data also indicated that optometrists practicing in the rural areas of Minnesota were for the most part practicing in better professional surroundings than were urban optometrists.

These data also indicated that optometrists with panel qualifications were practicing in 56 of the 87 counties of the state and that in the 31 sparsely settled counties in which there were no such optometrists that the residents of these counties were adequately served by optometrists with proper qualifications who were practicing in nearby towns across adjacent county lines.

From a refractive standpoint these data indicated that in all counties in which optometrists were located and in most in which there were no optometrists, that local county authorities were now sending relief cases for refractive work to both optometrists and eye physicians, either in their own county or in some other county.

In nearly all counties the relief client was given free choice of doctor by the authorities, who specified a maximum total fee for both examination and material on the refraction order. These fees were found to vary from $7 in some counties up to $20 in others, for each individual case.

From the standpoint of visual work done in the schools these data indicated very briefly (1) that in the rural areas of the state visual surveys of the eyes of children were not generally made, only approxi-

mately one-half of the children annually receiving this care. (2) That needy children were furnished glasses by the Red Cross in many counties and (3) by the Lions Clubs in others. (4) That there were no free clinics outside the three large urban areas to which children could be sent for an ocular refraction and (5) that optometrists and eye physicians were doing ocular refraction work for school children on a referral basis. (6) That there was, in nearly all counties, a free choice of doctors allowed the parents of the student when agency work of this kind was done.

Not being an industrial state the data assembled relative to visual work in industry in Minnesota produced little of immediate value not already known, but did supply the factual background necessary for a small but important visual-care program in this field as soon as the full measure of work now planned for relief cases and students is well underway.

With these data at hand the Public Health Bureau and the executive committee of the Minnesota State Optometric Association were able to start the detailed development of the proposed refractive eye care program for the indigent, this being the initial necessary step in a far-reaching state-wide public health refractive program. This first called for the creation of a properly put-together set of county panels and second for certain specific recommendations as to visual care for indigent and medically indigent persons, to be presented to the Minnesota Division of Social Welfare. The material used in the plan and the adopted proposal for refractive eye care will be presented in Part II of this report, to appear next month.

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HOW TO TALK TO TEACHERS ABOUT REMEDIAL READING PROBLEMS*

An adequate solution of the problem of teaching reading involves a cooperative relationship between optometry and education. A consideration of this problem may be logically divided into three parts. First, the psychology of professional specialization; second, the relation of ocular mal-function to educational difficulties; and third, what teachers need to know about the ocular status of their pupils. The importance of the

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effectiveness of this inter-professional relationship is difficult to over emphasize because of its great possibilities in fostering proper development in reading in our schools.

I. *The psychology of professional specialization.* Psychologists as a whole have concerned themselves very little with the psychological problems of various professional relationships. One notable exception to this rule is to be found in Walter R. Miles, professor of psychology in the school of medicine at Yale University. Professor Miles[11] has made a rather detailed analysis of the psychological problems of what he considers the major professions. Much of the following discussion of professional specialization has been taken from Professor Miles' analysis of the situation.

An important problem of professional specialization is that the relative isolation of the professions makes them somewhat fearsome, not only to the layman but to members of the other professions. Throughout the history of the development of the professions, each group has naturally sought territory for itself, has developed its own principles, formulas, procedures, ethics, and arranged these barricade-fashion while presenting a rather bold and aggressive front to society and to the other professions. Although it is true that certain notable advantages accrue from such specialization as we find in the field of optometry and in the field of education, at the same time there are certain disadvantages which should not be neglected, and which become important in any inter-professional relationships.

It has been said that philosophy should be considered as the mother of the sciences, and it is perhaps equally true that religion can be considered the mother of the professions. The first profession to split off from the ministry was that of medicine. In treating diseases, the religious features tended to be minimized and even discarded in favor of a more specific remedial aim. So through a series of stages, the priests and the physicians more and more parted company. But the early physician did not immediately discard all of his priestly methods. The principles of human nature do not permit such sharp breaks in habitual patterns of behavior. For example, the early physician would include in his healing techniques the quotation of such statements as, "Stop thou thy bleeding," and it is true that even today an important part of a physician's bedside manner involves the use of verbal ministrations which are definitely designed to influence the patient. This applies equally to op-

tometry and education. A frequent admonition of the educator is "I'm sure you will do better on the next examination," or of the optometrist who says, "I'm sure that you will be more comfortable with that adjustment."

When the break between the priesthood and the physicians became more definite as time went on, a new psychological stage appeared, a stage which has many modern counterparts among newer professions. This stage involved the tendency of the physician to disparage the abilities and techniques of the church, all the while emphasizing the distinctness and special values of his own profession. This resulted in a sort of a feud between the two groups, a psychological condition which is so clear that it certainly needs no elaboration.

Division has followed division among the various professions, and the professions of optometry and education follow the trend. Again within a specific profession, specialization has followed specialization. For example, in the field of optometry we have such fields of specialization as refraction, orthoptics, perimetry and the like. In education we have almost innumerable fields of specialization. We find people specializing in elementary education, in secondary education, in college education. Then within these groups again we find specialization in a variety of subject-matter fields; for example, remedial reading, English, mathematics, social sciences, industrial arts, home economics, and in any other field of knowledge. Although the various professions struggle among themselves for prestige and a special domain, it is important to keep in mind that *they work best in cooperation.*

Psychologists and many reformers in various professions have long attempted to convince the workers in the professions that man should not be lost in a complicated maze of routine built up by the profession for his service. As Miles puts it, "The words, 'The Sabbath was made for man and not man for the Sabbath,' were called forth by a widespread recurrent difficulty which is always at hand." All of the professions have a tendency to build up and elaborate complicated systems and then attend them and think of them as creeds which must be followed to the letter. Surely, specific professional procedures (optometric forms of treatment or educational methods) have much good within themselves, but one must never forget that their validity depends entirely upon their usefulness as a method of adjusting children or men or women to life, and this validity rests entirely upon empirical grounds. The child

as a human active organism in need of adjustment must never be lost sight of in a maze of professional techniques. The acme of professional practice is always to be found in the adaptation of the method of treatment to the patient on empirical rather than on theoretical grounds and of discarding an elaborate system even though it is the method of Hippocrates or Galen or Skeffington or Mason if the method doesn't work with a particular individual. The statement, "There is no one best way to teach reading," applies equally well to optometric forms of treatment.

The cooperation of a group of specialists, who as a group know much more than any single person, e.g. the early family physician, is fraught with a variety of difficulties in spite of its numerous advantages. Although the knowledge of the early physician in relation to any number of medical specialties was greatly limited, when he was dealing with his patients, he had a vast store of information which it is almost impossible, if not completely impossible, for a group of specialists to get. He had probably officiated at the birth of the person; he knew the parents, the aunts, the uncles, grandfathers and grandmothers; he knew, perhaps, that there was friction in the home or that Mary had been out to a picnic and eaten too much the preceding week-end or that Mary and Johnnie have had a tiff. Now, it is undoubtedly true that a group of specialists will work best for a variety of specific types of physical and structural pathology, but when we approach functional disorders, such a group of specialists is immediately handicapped.

Optometrists and teachers dealing with reading disability cases are concerned with a functional disorder. In dealing with such a problem as a reading disability with all of its various ramifications, the psychological aids of intimate acquaintance with the person, obtaining his confidence, his respect, being able to assure him of continued help and guidance—all of these things become of vital concern, and for the busy specialist are almost out of the question. We should bear in mind that by the time a child becomes a reading disability case, original causes, if there are clearly defined original causes, are so tied up with associated factors that causal relationships are almost impossible to identify. Some of these causes will be mentioned below.

The retarded reader requires the cooperation of several professions, and the height of cooperation will be reached when the various members of these professions keep constantly in mind that the child, rather than any system, is the core of the problem. Next in importance to the

child would be the teacher who through intimate personal acquaintance with the student has much valuable information which is important in tempering the suggestions of other specialists. In particular, cooperation between the optometrist and the teacher is important with retarded readers because of the obvious importance of adequate vision for efficient reading.

II. *The relationship between ocular mal-function and reading disability.* It is certainly no news to persons who have done any reading at all on the subject of the relationship between visual mal-function and reading disabilities to state that all of the evidence does not point in one direction. Therefore, it is certainly not surprising to find different opinions expressed by both optometrists and educators on this matter. Numerous reviews of the studies in this field have been recorded: for example, that of Clark[5] about a year ago and more recently that of Dr. Marguerite Thoma Eberl[7], so that it is hardly necessary to review the studies in detail here. The problem, however, resolves around the finding, or rather the failure to find, a positive correlation between visual defects and reading mal-function or the failure to find any difference in the visual status of good and poor readers. It is Eberl's opinion that the results from statistical studies give spurious data which do not accurately portray the situation. She believes that the only source of data which is valid is to be found in clinical studies and when data are collected periodically over an extensive period of time after visual disturbances have been corrected. Clinical studies have much to contribute, but Eberl's statement that statistical studies are invalid appears to be an untenable point of view as we will attempt to show. Both positive and negative data must be considered, and if both clinical and experimental studies are considered, then we may come to a more complete understanding of the problem.

Now, there is one point upon which educators, optometrists, and ophthalmologists agree immediately and that is that visual mal-function is a factor which must be taken into account in any consideration of the reading problem, particularly so in cases of reading disability. Every optometrist and every experienced teacher can cite many individual cases where the correction of visual difficulties has resulted in marked educational spurts. And it should be emphasized that these results are in no way incompatible with a low correlation between visual mal-function and reading disabilities.

Any adequate discussion of retardation in reading, or for that matter any other type of educational retardation, must take into account the complexity of the educational process. Referring specifically to the causes of reading disabilities, we find an almost inexhaustible list. Some of those more commonly named are the following: Low general intelligence, poor motivation, low specific language ability, visual defects, auditory defects, motor defects, word blindness, personality disorders, nutrition, general health, reversals, ocular and manual dominance; poor family background, defective speech, glandular dysfunction, poor eye movements, poor reasoning ability, neurological deficiencies, strephosymbolia, teaching method, lack of materials, foreign language in the home, lack of reading materials in the home. This makes an imposing array of causes of one specific type of retardation, and any consideration of the problem must surely lead to the conclusion that with such a multiplicity of factors involved that it would hardly be expected that any one of them show a correlation of any sizable degree.

Most persons would agree that the most significant single cause of retardation in reading is low intellectual ability, and yet the correlation between reading ability and intelligence at the college level is in the neighborhood of + .50. This correlation indicates only a slight relationship of little practical value for forecasting purposes in individual cases, being only about 13 per cent better than chance. It is true that the correlation between reading ability and intelligence is somewhat higher in the lower and intermediate grades, but even there, the correlations show a marked discrepancy between reading ability and intelligence. In spite of this low correlation no one would say that intelligence is of no importance in reading.

These moderate and low relationships are of no surprise to psychologists, educators, and statisticians. They would not expect to find a high correlation between them. The only time when one will find a very high relationship between two factors would be on the repetition of the same test on different occasions or when there is a marked similarity in the two traits. There is only a small similarity between the visual activity in reading and that occurring during an optometric examination. If one finds a very high correlation between two functions, a measurement of one will accurately predict the second. Surely no one would think of predicting a specific skill like reading ability on the basis of a single sense field. In any event correlations do not show cause and

effect relationships which must be determined on other grounds. Correlations also show only general trends and not what happens to individual cases which is the clinical problem.

In logically analyzing the causal relationships between visual and reading difficulties, clinical data do present evidence that the correction of visual mal-function frequently results in improvement in reading, and hence we may conclude that there is a causal relationship in some cases. However, equally impressive data can be found which will indicate that factors associated with good reading frequently cause visual defects. Extended close work with books leads to good reading abilities but may well contribute to such mal-functions as myopia. Both of these things happen to students in our schools, but they will not be evident in correlation coefficients which measure only group trends *and not individual variations.* The correlations do show, on the other hand, that most children can compensate to the extent that the educative process is not seriously retarded.

In discussing this problem with teachers, the following points can be made.[5]

1. Any adequate explanation of reading disability must consider the multiplicity of factors involved, that is, there are many things which may cause reading disabilities.

2. From the point of view of specific visual disabilities, visual-test results are like certain educational tests in that there is no single correct answer. Every finding must be evaluated in terms of the whole child, his physical and psychological condition as well as the way he uses his eyes.

3. Compensation for visual or auditory abnormalities is possible in a number of ways such as stressing a special teaching method, emphasizing another sense modality, the selection of better illumination, or the student may learn to compensate himself, for example, by suppressing one eye.

4. Some visual anomalies may facilitate reading; for example, myopia and monocular vision, although from the point of ocular hygiene they may be serious problems.

5. Some factors which contribute to superior reading ability may tend toward visual difficulties, e.g., extended reading without proper rest.

6. Subtle factors that are difficult to measure may be important; for example, a visual anomaly may cause a child to dislike reading because of discomfort, although he is able to force himself to do the work, or perhaps a parent and teachers will drive him sufficiently to make normal progress.

7. Visual inefficiencies may and probably do cause retardation in both good and poor readers, so that a comparison of these two groups is inadequate to determine the significance of visual mal-function.

8. Correction of visual incoordinations does result, in time, in marked improvement in reading ability, as any eye specialist or teacher can testify and as Dr. Eberl points out[7].

Another field in which optometrists and educators find themselves on common ground is to be found in the field of measurement of reading ability by means of eye movement photography. Here we find even more divergent points of view than found in considering the problem of visual disability. Luella Cole[6] states categorically that eye movements are a definite cause of retardation in reading, and that view is shared by others, for example, Parkins[12]. On the other hand, there are those, for example, Tinker[18] and Witty and Kopel[19], who believe that eye movements are nothing more or less than symptoms of higher mental processes.

In a recent report[12], Parkins described an experiment which he believes gives evidence to show that there is a definite difference in the fixation disparity of good and poor readers. He believes that a fixation disparity of one prism diopter is to be considered an important factor interfering with reading ability. It surely sounds logical enough on the face of it to say that binocular mal-functions as shown by binocular eye movement photography probably do contribute to poor reading. However, in his discussion Parkins has completely neglected to take into account a variety of studies such as those by Schmidt[14] as far back as 1917, Stromberg[15], Witty and Kopel[19], and Clark[3 4 5a], which tend to show quite definitely that Parkins' fixation disparity is characteristic of all types of readers and varies with such factors as interfixation distance. In fact, Parkins' own data indicate the same thing because a large majority (probably about 75 per cent of his cases) show a "fixation disparity" which he considers enough to be a causative factor in poor reading. Although these data do not necessarily disprove Parkins' theses, he is in a similar position to establish "fixation disparity" as a basic cause of reading retardation.

Tinker[18] has rather definitely established the fact that eye movements give valid and reliable measures of reading ability under proper conditions, but he is of the opinion that eye movement photography as a diagnostic reading technique should be limited to educational clinics[17]. Although all serious students of the reading problem must certainly take into account the studies of eye movement photography by psychologists, educators, and optometrists, it is undoubtedly true that the chief contribution of such studies has been in the direction of giving us a more thorough scientific understanding of the reading problem rather than supplying a practical technique which is directly usable in the classroom or optometric office. In any event, eye movement photography should be considered merely as a supplementary educational and/or optometric technique rather than a substitute for other methods. This in no way detracts from the value of eye movement photography in schools or optometric offices where time and facilities are available to adequately use them.

III. *What teachers need to know about the ocular status of their pupils.* A great deal has been said in the medical as well as in the optometric and educational literature in regard to the importance of various ocular abnormalities in connection with the educational program. Of course, it can be considered axiomatic that ocular mal-function does interfere with the educative process, but very little has been determined concerning the specific manner in which ocular incoordinations affect actual classroom practices. As far as this writer knows, no detailed studies have been made either of the way eyes are ordinarily used *in the classroom* or just exactly what effects can be expected from any one of the various types of ocular difficulties. Fendrick's study[8] of reading is a possible exception. Looking at the problem through educational, rather than optometric eyes, these are the important problems, and here is a field in which optometrists can make a definite contribution.

Leaders in the field of education in the last decade have placed considerable emphasis upon reading readiness. In the early development of this concept it included a rather limited range of abilities. But more recently the concept has been broadened to include such factors as intellectual readiness, emotional readiness, and physical readiness. This means that educators have come to hold the opinion that a child is not ready to read at maximum efficiency until a variety of types of growth have occurred. The current interest in the importance of visual factors in reading was originated by Betts[2] and others, not as a problem in

vision alone but as *a part* of reading readiness as shown by the fact that the Betts Visual Sensation and Perception tests are only a part of the Betts Reading Readiness Test. Unfortunately, this point has been forgotten or at least disregarded in certain optometric quarters with a resultant loss of perspective as to the part optometry can play in the educational program.

The most elaborate single treatment of the problem of reading readiness in the educational literature is that of Lucille Harrison in her book, Reading Readiness[10]. For convenience of discussion, she classifies the various factors which contribute to readiness in reading into three major categories, namely: (I) Intellectual Development, (II) Physical Development, and (III) Personal Development. Visual development is one of six major categories under physical development. Visual development is, in turn, broken down into four major categories: (1) Freedom from word blindness, (2) Freedom from aphasias, (3) Eye dominance, and (4) Sensation and perception. Sensation and perception are again subdivided according to the classification used by Betts.

Readiness to read, or the lack of it, is commonly thought of as of importance only in the first grade. On the contrary, it should appear evident from this discussion that there is a need for reading readiness at all educational levels. An inventory of a student's readiness to read should be made whenever he begins a new level of work, and this inventory should include an investigation of the student's intellectual, physical, and personal development. For example, it is important for a teacher to know that a child has achieved the background skills that are necessary in order to read at an advanced educational level, or that the student has had an adequate background of experience to assimilate the material which is to follow. A specific illustration of the second example would be that difficulties would be involved in attempting to have students read about trains or ships or, let us say, cows if none of the members of the class had had any experience with any of these things.

Normal visual development will make a definite contribution to a student's readiness to read at higher levels where a more extended and rigorous demand is made on his visual mechanism. An important problem in the field of optometry-education research would be to determine whether there are significant periods in the educational process where inventories of the visual mechanism would be of particular value as has already been found for other aspects of reading readiness[6].

An uncritical analysis of this discussion of reading readiness may lead one to the conclusion that educators are suggesting that there are periods of time when we must merely wait for a child to develop in certain ways before we begin or renew certain types of work. On the contrary, nothing could be farther from the truth. *Reading readiness is something which teachers and other persons interested in the educational process should make systematic attempts to develop. It is definitely* NOT *something to merely wait for.* If a student's personal development has been inadequate, teachers make systematic attempts to enrich the experiences of the child so that he may profit by his classroom experiences. In a similar way the optometrist can contribute to ocular development where that is needed.

From the point of view of the readiness of the eyes to actively function in the reading process, two general approaches to the problem appear possible. The first contribution that can be made by optometrists would be, obviously, the use of various optometric means to build up the efficiency of the eyes; for example, by the use of lenses or orthoptics. Such procedures are too well known to require any comment. The second contribution has to do with suggestions that can be made by optometrists to teachers to improve the functioning of a given pair of eyes in the classroom. It has been said that the best health officer is one who is present all the time and ever-watchful for the welfare of the child. That ever-present health officer is the teacher. She is in a unique position which will contribute to ocular readiness for reading. If certain types of information are made available to her, she can greatly increase the efficiency of the child in the classroom. This would apply to students having no apparent visual difficulties as well as to those with visual handicaps.

In discussing these problems with teachers and in attempting to clarify a student's visual status to the teacher, two things should be kept definitely in mind. In the first place, it seems that controversial issues in connection with optometric techniques should be handled with the greatest of care if not entirely avoided. Although controversial issues need to be thrashed out in optometric discussions, only confusion results in attempting to explain the detail of opposing points of view in connection with ocular therapy. In the second place, one should make a distinction in one's mind between approximate and exact knowledge of a student's visual status. One could hardly over-estimate the importance of exact measurement and exact records of these measure-

ments in the routine work of the optometrist. However, teachers can neither understand, nor for that matter, need to be concerned with, the exact degree of the difficulty involved. A teacher should certainly know the approximate status of a student's visual functions, but what she wants to know in particular is how that is going to be of importance in her work with the child in the classroom. Attempts to go beyond this with the average teacher lead only to confusion and misunderstanding and may interfere with the proper development of the child. Some of these factors of practical significance in the classroom are: are:

1. A problem of primary concern is whether the child can be expected to see board work clearly from any part of the room. It is commonly stated that near-point tests are of first importance in connection with reading since reading is done from books. This point of view completely overlooks the fact that much of the initial instruction in reading is done at the board where visual acuity may make or break a child. Such difficulties can be reduced by such obvious things as seating the child near the front of the room or placing the child in a class where visual functions are not so frequently required at a great distance.

2. The teacher also needs to know whether a child can be expected to see printed material at a reading distance for a normal reading period without fatigue. One recently published test of intellectual ability[1] includes a near point acuity test to determine whether the persons tested have adequate vision.

3. The teacher will also want to know whether extended close work or visual work at any other distance will have a tendency to reduce the efficiency of the eyes.

4. Visual disabilities which will cause relatively rapid fatigue are also of considerable importance especially if they interfere with concentration. Many times a shortening of work periods or considerable care in the illumination used may reduce nervousness or other mild personal difficulties. Another specific case where visual fatigue is of great importance is in connection with examinations. In all types of speed tests, if visual inefficiency will reduce the functioning of the eyes, a lowered score may result giving a spurious measurement which may well make the youngster appear to be a dullard when, as a matter of fact, he could have done much better had the time limit been more

liberal. That is to say, such a test does not adequately measure his educational ability and instead is really measuring a reduced ocular funct[

5. Color-blindness, or lowered color sensitivity, is a very important matter in the ordinary classroom, particularly in these days when there is great emphasis on colored materials in workbooks and in other aspects of the teaching process. In the early elementary grades, it is a difficult problem for a teacher to know whether a child is having difficulty with color names or with actual color discrimination. Results of a test of color-blindness will greatly reduce the difficulties in this field.

6. The visual abilities of some students make it advisable to have differentiated types of activities. This is true not only of severe cases of visual difficulty, but of milder types. It has been shown by Fendrick,[8] that students having visual difficulties which interfere to any extent with their ability to see the board do not do as well if the look-and-say method is used in the class. Such students should be shifted to other teachers who may use another teaching method which places less stress on the visual mechanism, e.g., a phonetic method.

7. It is helpful for the teacher to know what effect new lenses will have on the behavior of a student's eyes. Although it is true for the most part that a definite period of reconditioning is necessary before educational improvement is to be expected, in some cases immediate educational spurts will result from corrective lenses.

8. Possible effects of visual defects on other bodily functions are important in the classroom. Visual mal-functions which are likely to result in nausea or headaches raise definite problems which must be met intelligently by the teacher.

9. A matter of paramount interest to all teachers is found in symptoms observable in the classroom which may lead to a discovery of ocular inefficiency in their pupils. It has been the experience of this writer in talking with hundreds of teachers that this is a matter of profound concern. In various places throughout the last quarter of a century, a variety of lists of such symptoms have been published, some of them being very brief and others very extensive. A recent list* pub-

*Sullivan, E. T., Clark, W. W., and Tiegs, E. W. California Test of Mental Maturity, 1937, Southern California School Book Depository, Ltd., Los Angeles, Calif.

lished by the National Society for the Prevention of Blindness gives an imposing list of twenty-six types of behavior which many indicate visual difficulties among children. This is in addition to such obvious things as red eyelids, sties, swollen lids, watery eyes, and the like.

Although it is true that the significance of various symptoms which might be listed would vary from one optometrist to another, the following is a list of such symptoms which has been found helpful by many teachers. 1. Writing off the line continuously even after considerable amount of practice to correct it. 2. Copy work that is uniformly irregular, even after practice to correct it. 3. Poor letter formation, even after practice to correct it. 4. Holding the reading or writing materials too close to the eyes or at odd angles. 5. Frowning during reading or close work, or frowning in reading material from the blackboard. 6. Inflamed lids, particularly over an extended period of time. 7. Change in physical condition as a result of extended close work. 8. Afternoon headaches, especially if preceded by a reading period. 9. Emotional patterns. Extreme nervousness, particularly if late in the day. 10. Watering of the eyes, especially during reading. 11. Asking the child. A child may say that eyes ache, burn, or that he cannot see the words clearly on the board. 12. "Squinting" or narrowing of the lids when the child attempts to read from the board or book. 13. Errors in words of similar configuration such as oat, cat, eat; or band, hand, hard. 14. Tilting the head during visual tasks.

10. The whole problem of ocular hygiene presents another field where the optometrist can be of great aid to the classroom teacher. This hardly needs elaboration, but includes such matters as illumination, posture, and typographical factors in connection with printed materials,[13] and these factors are important not only in the formal reading session but throughout the whole educative process.

Two other matters are of importance in talking to teachers about the reading problem in connection with visual difficulties. The first relates to a matter of "interprofessional ethics." It has been the policy of some professional people outside of the field of education to make broad generalizations in regard to certain teaching methods and other educational procedures to teachers and parents. It would seem that optometrists or ophthalmologists should not be expected to speak with authority in connection with classroom methods beyond the

problem of visual hygiene. Teachers themselves are in a much better position to evaluate such procedures.

A second barrier between optometry and education is to be found in the unique concepts basic to each profession as expressed by their special vocabularies. This problem, of course, is found in all types of interprofessional relationships. Such basic concepts in education as standard deviation, scale, standardization, aptitude tests, accomplishment quotient, power tests, percentiles, and the like have very limited meaning for the average optometrist. Similarly, such concepts as exophoria, astigmatism, and aniseikonia have very limited meaning for teachers. Here again, we have the problem of the importance of exact as compared with approximate knowledge in connection with other professions. In such a situation two solutions present themselves. One, of course, is to see to it that the teacher and/or the optometrist learn the concepts in the other field. This is manifestly impossible for any considerable proportion of either profession. The other alternative, then, is to recast the concepts into terms having less exact meaning but undoubtedly much greater value in dealing with the problems. A very general or approximate statement of the actual visual status of the child together with the much more important factor of the significance of that particular condition in the classroom is the thing which the teacher will find of great significance in her work. It is of little value for a teacher to know that a youngster is a 1.87 diopter progressive myope with 3 diopters of esophoria with 20 diopters of adduction and 4 diopters of abduction, etc., etc. But, on the other hand, it is vital for her to know that we have here a youngster who can only see board work with difficulty, that the condition may tend to increase with excessive amounts of close work and that certain precautions should be taken in connection with all types of reading. Such a statement reduces confusion on the teacher's part and lets her know precisely what her problem is in caring for the youngster's eyes. *Tell the teacher what she should do about the child's visual tasks rather than what is specifically the cause of the difficulty.*

IV. *Summary.* We have been dealing with the complex problems arising as a result of the interprofessional relationships between education and optometry, and have been concerned with some of the factors to be considered in maintaining an effective relationship. First, the child must be constantly considered as the core of the problem and special methods of treatment must often be readjusted to insure his

development. Close cooperation between several professions is necessary to solve the problems of retarded readers. Second, adquate vision is basic to maximum efficiency in reading, but visual difficulties act as complete physiological handicaps only in rare cases. Learning to read is a complex process in which good vision plays *one* important role in determining a child's readiness to proceed efficiently. Third, the teacher is the hub around which all remedial work must revolve, and when she is informed as to the practical implications of ocular conditions in connection with classroom work, she is in a position to do much to facilitate the progress of children with or without visual mal-function. Proper perspective, flexibility of treatment, adequately informed teachers and optometrists, and above all, active cooperation between the professions—these four essential factors can contribute in a vital way toward efficiency and joy in reading and in the whole educative process.

Brant Clark.

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TRANSACTIONS OF THE AMERICAN ACADEMY OF OPTOMETRY

by J. Fred Andreae, Secretary

A department devoted to announcements, reports, appointments, organization data, news, professional problems and ideals, as these relate to the Academy.

ANNOUNCEMENT OF THE PROGRAM COMMITTEE

No definite date has been set for the next meeting of the American Academy of Optometry because of the uncertainty of transportation; however, this does not mean that the functions of the Academy are suspended. In particular, it is to be requested of those Fellows who are preparing or are intending to prepare papers to be presented before the annual meeting, to continue their work. In the event that no meeting is held this year, the papers will be turned over to the AMERICAN JOURNAL OF OPTOMETRY AND ARCHIVES OF THE AMERICAN ACADEMY OF OPTOMETRY for publication.

The Academy wishes to announce that an award will be given the practicing optometrist presenting the outstanding paper in 1942, and each year thereafter; also, it invites those interested in preparing papers to contact the chairman of the Program Committee. It should be kept in mind that at the next meeting there will be one day devoted to class work demonstration of clinical procedures, and if a Fellow so desires, he may present both paper and clinical demonstration, or a division of this work may be arranged.

The non-practicing optometrist should not feel that his efforts are not essential; to the contrary, we earnestly seek and welcome his continued research, demonstrations, and presentation of papers.

To all members: The Program Committee is particularly interested in receiving papers on the following subjects:

1. Orthoptics
2. Visual Fields
3. Industrial Screening Procedures
4. Military Visual Procedures

D. G. HUMMEL, *Chairman.*

LIONEL TOPAZ

We of the Academy note with regret the recent passing of Dr. Lionel Topaz of Chicago, who was, for 32 years, the publisher of the OPTOMETRIC WEEKLY, the EYE, EAR, NOSE AND THROAT MONTHLY, the BLUE BOOK OF OPTOMETRISTS, and the RED BOOK OF OPHTHALMOLOGISTS.

Always active in the affairs of the American Optometric Association, Lionel Topaz has for years done much to influence the development of that organization and his passing found him, as he had lived, vigorous, forceful and energetic.

The Topaz life span covered a period of great development and change in optometry and his purposeful writings contributed towards the upbuilding of the exclusive ethical practice of professional optometry now generally accepted as the normal standard of refractive practice.

In recent years he championed at all times the Optometric Extension Program and his fruitful backing of this movement had much to do with its widespread development.

Lionel Topaz was held in high esteem among many optometrists and generally throughout the entire optical industry. He is survived by a daughter and two sons, all now active in his publishing business. To these and to his many friends, both in and out of optometry, the Academy expresses its sincere sympathy in the passing of this most useful and active publisher in the sphere of refractive eye care.

Arthur P. Wheelock.

PROCEDURE AND INSTRUMENTATION

by Guy L. DuPlessis

A department wherein discussions will be carried on relative to the value of various experimental and clinical techniques as employed by practicing optometrists, and also in which the instruments used by optometrists in various phases of their work, will be subjected to some critical evaluation.

AN OPTICAL UNIT FOR VARIABLE MAGNIFICATION

Kenneth N. Ogle, of Dartmouth Eye Institute, describes this instrument in the March, 1942, issue of the Journal of the Optical Society of America. This optical instrument is the lens element of the eiseikonometer, an instrument with which differences in the size of ocular images

are measured by subjective equalization. Each optical unit consists of two powered lenses in a plus-minus combination and of a mechanical mount whereby the separation between these lenses can be varied.

Ogle describes the principle involved in the use of this instrument as follows: "It is designed for use at reading distance; that is, a distance of about 40 cm. from the eyes. At this distance one can make use of a simple concept of geometrical optics and select the power of the objective lens so that the longitudinal or axial magnification is unity. For a small axial displacement of the object, the image is correspondingly displaced in the same direction and changed in size. Obviously, if the position of the object remains fixed, the lens is slightly displaced along the axis under the same conditions, the position of the image of the object remains substantially fixed, though magnified. This magnification is approximately proportional to the power of the lens and the magnitude of the displacement."

With the object at a distance of 40 cm. from the eyes, a change in separation from contact to 10 mm. increases the apparent size of the image 5 per cent. Both the objective and the ocular lenses are curved toward the object in order to provide a separation at which there is zero magnification.

In addition to spherical units such as the one mentioned, Ogle mentions the meridional magnifying units which magnify in one meridian only. These are similarly constructed but each lens instead of being spherical is a bi-toric lens; that is, having a cylinder on each surface. The spherical and cylindrical units can be combined to measure cases where one image is not only greater than another, but unequal in its principal meridians. The article is accompanied by graphs showing the magnifying power of various units at various stages of separation and also contains illustrations of the device. The article is an interesting elucidation of the optical system of the eiseikonometer.

BOOK NOTICES AND REVIEWS

Books received are acknowledged by notices in this department. Special selections will be made for more extensive review in the interest of our readers as space permits.

CONTACT LENSES. Theo. E. Obrig, A.B. Published by the Obrig Laboratories, Inc., 7 East 48th St., New York City. 470 pages, illustrated. Cloth. 1942.

The author has made and fitted contact lenses for some time and has had experience in the use of most of the types of contact lenses then and now in use.

He first presents an historical review of the subject of contact lenses, giving the reader the chronological development of these aids to subnormal vision. The various types of contact lenses are described and the author presents in some detail the steps to be taken by the optometrist or eye physician in prescribing these.

Both the preformed standardized lenses, as well as the individually molded lenses, are considered and the reader is presented the advantages of each.

The author presents considerable data relative to the patents which have been issued on various forms of contact lenses and a rather complete bibliography.

The text is well written and presents to the reader a review of the entire subject of prescribing and fitting contact lenses.

Carel C. Koch.

MOTIVATION AND VISUAL FACTORS. INDIVIDUAL STUDIES OF COLLEGE STUDENTS. Irving E. Bender, Henry A. Imus, John W. M. Rothney, Camilla Kemple and Mary R. England. Published by the Dartmouth College Publications. Hanover, N. H. 369 pages. Cloth. 1942.

The authors present, in great detail, the data normally accumulated by Dartmouth College on its students in relation to academic accomplishment, scholastic aptitude and health as well as much additional data as to the students' visual measurements, psychological test scores and interviews during their four years as undergraduate students.

This report follows a preliminary report, *The Evaluation of Visual Factors in Reading*, presented by the authors in 1938.

In the final report, intensive individual studies are made and presented of 124 members of the class, while correlations of data based on some 500 students are included in certain sections.

This study includes a profound investigation of the psychological factors which were found to motivate the student, and presents some data of importance which tend to indicate the rather close relationship between visual and motivational factors. Carel C. Koch

ABSTRACTS

A department in which will appear abstracts of the literature of optometry, ophthalmology and applied optics. These will be classified according to the following list, although contributions to all sections will not necessarily appear in each issue.

1. Ocular Refraction.
2. Physiological Optics and Color Vision.
3. Ocular Muscles.
4. Orthoptics and Reading.
5. Anatomy, Histology and Embryology.
6. Ocular and General Pathology.
7. Ophthalmic Lenses and Material.
8. Instruments.
9. Hygiene and Illumination.
10. Applied and Physical Optics.
11. Education, Sociology and Economics.
12. Miscellaneous.

1. OCULAR REFRACTION

DYNAMIC IGNORANCE. Spooner, J. D. Optician (London). 1942, 102, 2650, 301-302.

Spooner points out that in using the technique of dynamic skiametry that error of judgment, tolerance, spherical aberration, chromatic aberration and accommodative problems present to the examiner possible errors in findings from 0.25 D., to 1.50 D., in hyperopes and from 0.25 D. to 1.75 D., in myopes. He admits that in many cases these variables will cancel out, either fully or in part, but he points out that they too may add up, and the examiner has no method of knowing which has happened. Spooner does not like dynamic skiametry. He says in his conclusion, "Enough has been written to show that the current technique of dynamic retinoscopy is of little value owing to its inability to analyze or control the various factors making for gross inaccuracy. Because of this and because of the obstinacy of its advocates in refusing to admit or consider the defects of their method and apparatus it is possible for them to theorize *ad lib* to the effect that they and they alone, in the light of their private genius, understand what is going on."—L. P.

A NOTE ON THE CROSSED CYLINDER. Swann, L. A. Optician (London). 1942, 103, 2654, 9.

Swann finds the crossed cylinder of value in the accurate determination of the axis for the cylinder in astigmatic cases. He uses the 0.25 D., or the 0.50 D., crossed cylinders, applying these first at the four cardinal axii and then rotating the crossed cylinder. It is important that the correct spherical and cylindrical powers be present before the patient's

eyes when the test is made. It is true that this technique takes time, but Swann feels that the added accuracy afforded by the test justifies its use.

—C. C. K.

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2. PHYSIOLOGICAL OPTICS AND COLOR VISION.

MYOPIA. Coates, W. R. Optician (London). 1942, 103, 2655, 21-24.

In this article, Coates emphasizes the fact that myopia is as often a normal refractive state as is astigmatism or hyperopia or even emmetropia itself. In other words Coates finds that in the majority of myopic cases the myopia itself is a part of the expected normal variation in the long series of possible refractive errors. The author presents eleven specific reasons to support his contention. —C.C.K.

A DISCUSSION OF SOME NEW THINKING RELATIVE TO VISION AS A FUNCTION. Ash, R. F. Journal of the American Optometric Association. 1942, 13, 7, 201-211.

Ash challenges the universally accepted theories of refractive error and muscular imbalances. He denies the accepted fact that the anterior-posterior diameter of the eye has a material relation to the refractive error found present in any given case. He denies also that there can be such a thing as a "weak ocular muscle in a healthy eye." He fails, however, to define the term "weak." The theory he presents is, that as optometrists we are not examining eyes but rather brain reactions and making use of lenses to readjust these reactions to enable patients to meet changes in an artificial environment. The author attempts to rationalize his thinking with but little success. —C.C.K.

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4. ORTHOPTICS AND READING.

THE PHYSIOLOGIC APPROACH TO THE SOLUTION OF OCULAR PROBLEMS. Wahlig, C. J. Bulletin of the Optometrical Society of the City of New York. 1942, 7, 5, 9-10.

"The intelligent practice of orthoptics in conjunction with the use of the highly developed instrumentation that may be used to affect

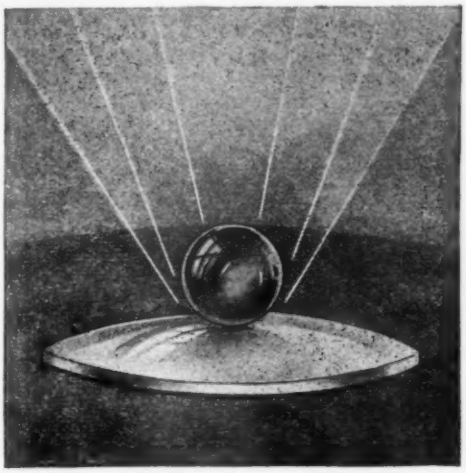
changes in the visual functions have opened a new era in the practice of optometry. There are signs pointing to the possibility of not only relieving the true sources of complaints involving the eyes but the prevention of disease and the extension of useful powers of vision far beyond what are ordinarily considered the limits at the present time. This is the role optometry will play in the immediate future." —T.O.B.

SUCCESS AND FAILURE IN VISUAL TRAINING. Parkins, G. A. Optometric Weekly. 1942, 33, 7, 176-177.

Orthoptic training is a form of education and the patient must realize the need for this before he can profit from this form of therapeutic work. Training cannot be successful if the treatments are given in a routine manner, the orthoptist must devote time and individual care to each case treated. The orthoptist must also have the fullest cooperation of the patient. —L.P.

THE MANAGEMENT OF STRABISMUS AT THE MILWAUKEE CHILDREN'S HOSPITAL. Hitz, J. B. American Journal of Ophthalmology, 1941 (Sept.) 24, 1019-1022.

In this paper the author limits himself to the consideration of manifest internal strabismus. The general routine procedure is described. The results are given in the following figures. These have been selected cases, that is, cases of marked uncorrected amblyopia, marked anisometropia, marked innervational anomalies (as described by Bielschowsky), and patients with definite mental or psychological handicaps have been eliminated. Of 143 patients, 57 per cent showed abnormal retinal correspondence. Of 34 abnormal correspondence cases given prolonged treatment, 58 per cent were converted to normal correspondence. Of 24 treated with glasses, occlusion, pre- and post-operative exercises, 33 per cent showed binocular vision and 41 per cent showed partial binocular vision. Of 19 treated in the same manner, but without orthoptics, 26 per cent showed binocular vision and 21 per cent partial binocular vision. In no patient did any degree of binocular vision develop in the presence of untreated abnormal retinal correspondence. —R.J.B.



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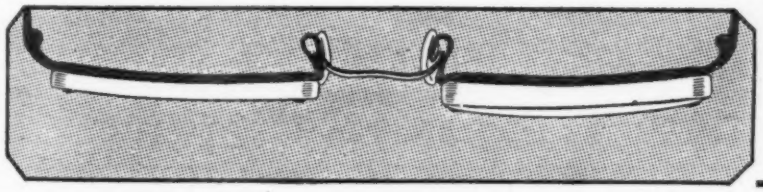

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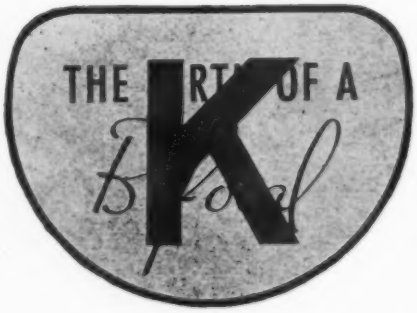

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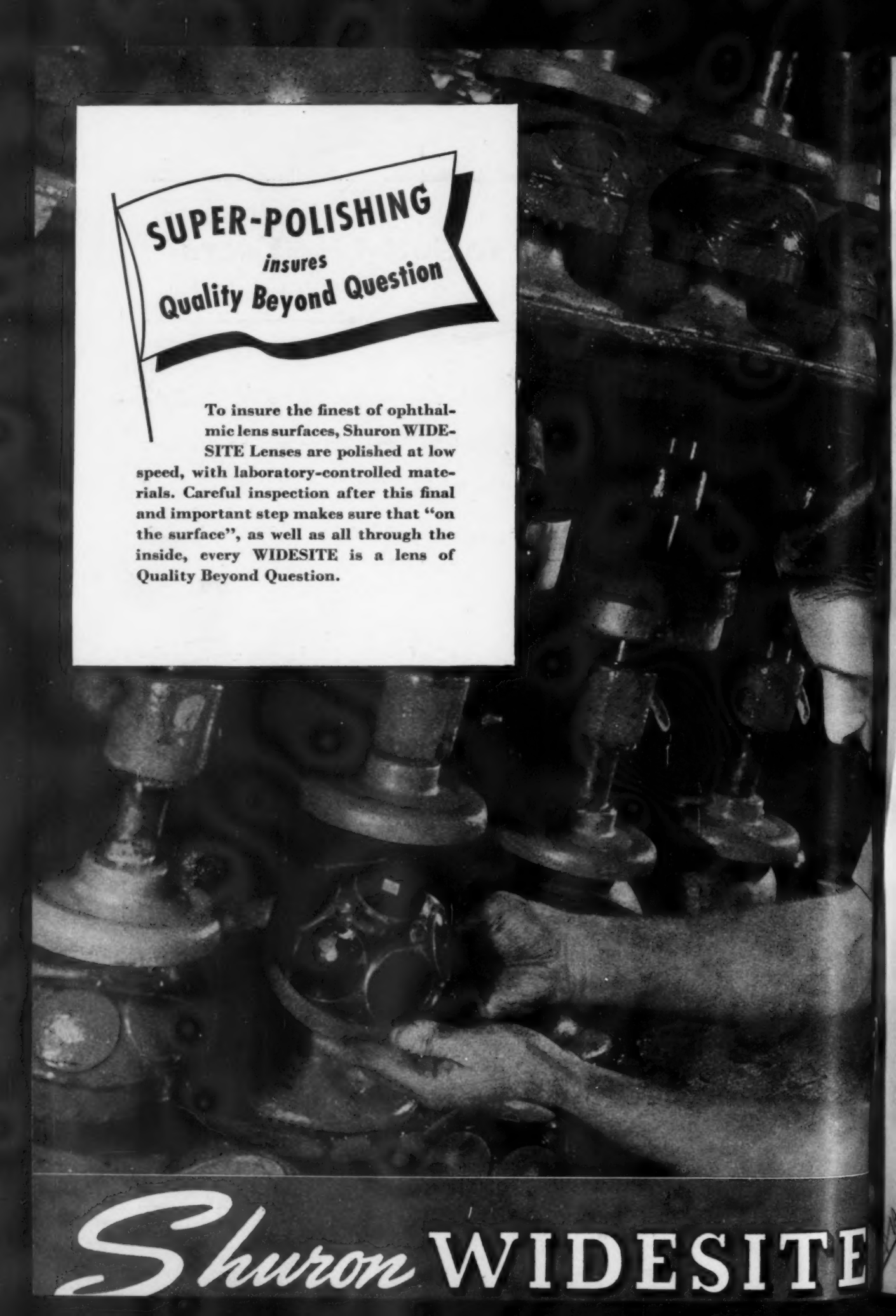
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